What is claimed is:

1. A combined emission tomography and computer tomography unit (ET/CT unit) for imaging an object to be examined, comprising:

a scintillation detector and an evaluation unit for recording radiation emitted from the object to be examined;

a computer tomography unit (CT) including at least one radiation source rotating about a system axis, from which a fan-shaped radiation beam emanates that scans a measuring field and supplies, together with a detector system, output signals from which the distribution of the attenuation coefficients of the object to be examined are reconstructable with reference to a reconstruction field; and

means for correcting the detected data of the emission tomography unit (ET) using the distribution, examined by the CT, of the attenuation coefficients in the object to be examined, wherein the reconstruction field is larger than the measuring field.

2. The ET/CT unit as claimed in claim 1, wherein the CT includes means for extrapolating the measured data for the region of the reconstruction field that is situated outside the measuring field in order to extrapolate data of the reconstruction field that are situated outside the measuring field.

3. The ET/CT unit as claimed in claim 2, wherein the CT includes means for obtaining the data for the region of the reconstruction field that is situated outside the measuring field by extrapolating cut projections.

4. The ET/CT unit as claimed in claim 1, wherein the CT includes means for detecting cut projections and extrapolating data, referring to the region of the reconstruction field situated outside the measuring field for detected cut projections.

5. The ET/CT unit as claimed in claim 2, wherein the CT includes means for subjecting the extrapolated data to smoothing for the purpose of artifact reduction.

6. The ET/CT unit as claimed in claim 1, wherein the measuring field and the reconstruction field include a circular contour and are arranged concentrically with one another.

7. The ET/CT unit as claimed in claim 6, wherein the radiation beam of the CT emanates from a focus of the radiation source that is moveable on a circular path about the system axis.

8. The ET/CT unit as claimed in claim 1, wherein the CT includes, as a radiation source, an X-ray source emitting X radiation.

9. The ET/CT unit as claimed in claim 1, wherein the measuring field of the CT covers the circular region that is circumscribed by the outer rays of the radiation beam of the CT, and the reconstruction field together with the measuring field also includes at least the region of the object to be examined that goes beyond the measuring field.

10. The ET/CT unit as claimed in claim 1, wherein the CT part includes a dedicated radiation detector.

11. The ET/CT unit as claimed in claim 1, wherein the radiation detectors of the CT and ET are identical.

12. The ET/CT unit as claimed in claim 1, wherein the ET part of the unit is a PET, and further comprising means for determining coincident γ radiation that is generated by positron decay events.

13. The ET/CT unit as claimed in claim 1, wherein the ET part of the unit is a SPECT.

14. A method for producing ET images from an object to be examined with the aid of a combined ET and CT unit, comprising:

correcting a measured ET image using, during production of the ET images of the spatial distribution measured by the CT, attenuation coefficients in a measuring field of the CT, wherein the attenuation coefficients of the object to be examined, that are disposed outside the measuring field, are determined by extrapolation of detector channels.

15. The method as claimed in claim 14, wherein extrapolation of cut projections is used.

16. The method as claimed in claim 14, characterized wherein point reflection is used as an extrapolation method.

17. The method as claimed in claim 14, characterized wherein linear extrapolation is used as an extrapolation method.

18. The method as claimed in claim 14, wherein at least the extrapolated data are subjected to smoothing for the purpose of artifact reduction.

19. The method as claimed in claim 14, wherein different detectors are used to detect ET radiation and CT radiation.

20. The method as claimed in claim 14, wherein a common detector is used to detect ET radiation and CT radiation.

21. The method as claimed in claim 14, wherein the attenuation coefficients determined in the CT method are converted to the attenuation coefficients to be expected with reference to ET radiation.

22. The method as claimed in claim 14, wherein the PET method is used as ET method.

23. The method as claimed in claim 14, wherein the SPECT method is used as ET method.

24. The ET/CT unit as claimed in claim 2, wherein the CT includes means for detecting cut projections and extrapolating data, referring to the region of the reconstruction field situated outside the measuring field for detected cut projections.

25. The ET/CT unit as claimed in claim 1, wherein the measuring field of the CT covers the circular region that is circumscribed by the outer rays of the radiation beam of the CT, and the reconstruction field together with the measuring field also includes at least a circular region that covers the entire object.

26. The method as claimed in claim 15, wherein at least the extrapolated data are subjected to smoothing for the purpose of artifact reduction.

27. The method as claimed in claim 16, wherein at least the extrapolated data are subjected to smoothing for the purpose of artifact reduction.

28. The method as claimed in claim 17, wherein at least the extrapolated data are subjected to smoothing for the purpose of artifact reduction.

29. The method as claimed in claim 14, wherein a scintillation detector is used to detect ET radiation and CT radiation.